



Food and Agriculture Organization  
of the United Nations

# Forest Landscape Restoration in the Caucasus and Central Asia

Needs and Potentials



FORESTS



**SUSTAINABLE FOREST MANAGEMENT AND FOREST  
LANDSCAPE RESTORATION IN THE CAUCASUS AND  
CENTRAL ASIA**

**UNFF 13 Side Event, 7 May 2018, New York**



# Caucasus and Central Asia

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# Common features

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- All 8 countries became independent after the dis-integration of Soviet Union.
- All countries suffered a severe economic crisis during the 1990s.
- Today, agriculture (including forestry) is a major employer in the CCA countries (at least 25% of the population, except for Kazakhstan and Turkmenistan).
- The rural population is more than 40%.
- All countries, except for Georgia, are forest poor countries.

# Forest cover of the CCA countries

Data from FAOSTAT



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Country	Area [1,000 ha]			Forest cover [%]
	Country area	Arable land	Forest	
Armenia	2,974	447	332	11.2
Azerbaijan	8,660	1,938	1,139	13.2
Georgia	6,970	448	2,822	40.5
Kazakhstan	272,490	29,395	3,309	1.2
Kyrgyzstan	19,995	1,281	637	3.2
Tajikistan	14,138	730	412	2.9
Turkmenistan	48,810	1,940	4,127	8.5
Uzbekistan	44,740	4,400	3,220	7.2

The FAOSTAT data may differ considerably from national data due to different definitions for the term “forests”.

# The Caucasian countries

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- Armenia, Azerbaijan, Georgia.
- Moist air floats from the Black Sea into the region: humid climate in W-Georgia – arid climate in E-Georgia, Armenia, and Azerbaijan.
- Naturally, forests would cover large parts of Georgia, but only the mountain ranges in Armenia and Azerbaijan.
- In Georgia, agriculture occupies potential forest area in low elevations.
- Most forests are broadleaf forests of *Fagus orientalis*, Oak, and Hornbeam. Distribution 600 m to 1000 m (2000 m) a.s.l.



Beech forest, Kvareli,  
Georgia

# Central Asia

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- Most of Central Asia is covered by steppes and deserts (in particular in Kazakhstan, Turkmenistan, and Uzbekistan).
- Kyrgyzstan and Tajikistan are largely covered by mountains: Tianshan and Pamirs.
- Forests in the mountains: Spruce, Juniper, Walnut-Wild Fruit forests, Pistacheo forests.
- Forests (woodlands) in the deserts: White Saxaul, Black Saxaul, Tugai forests (riparian forests).
- **Forests are distributed in a mosaic with pastures and cropland.**



Spruce forest, Altyn  
Arashan, Kyrgyzstan



Black Saxaul, Repetek,  
Turkmenistan



Walnut forest,  
Arslanbop, Kyrgyzstan

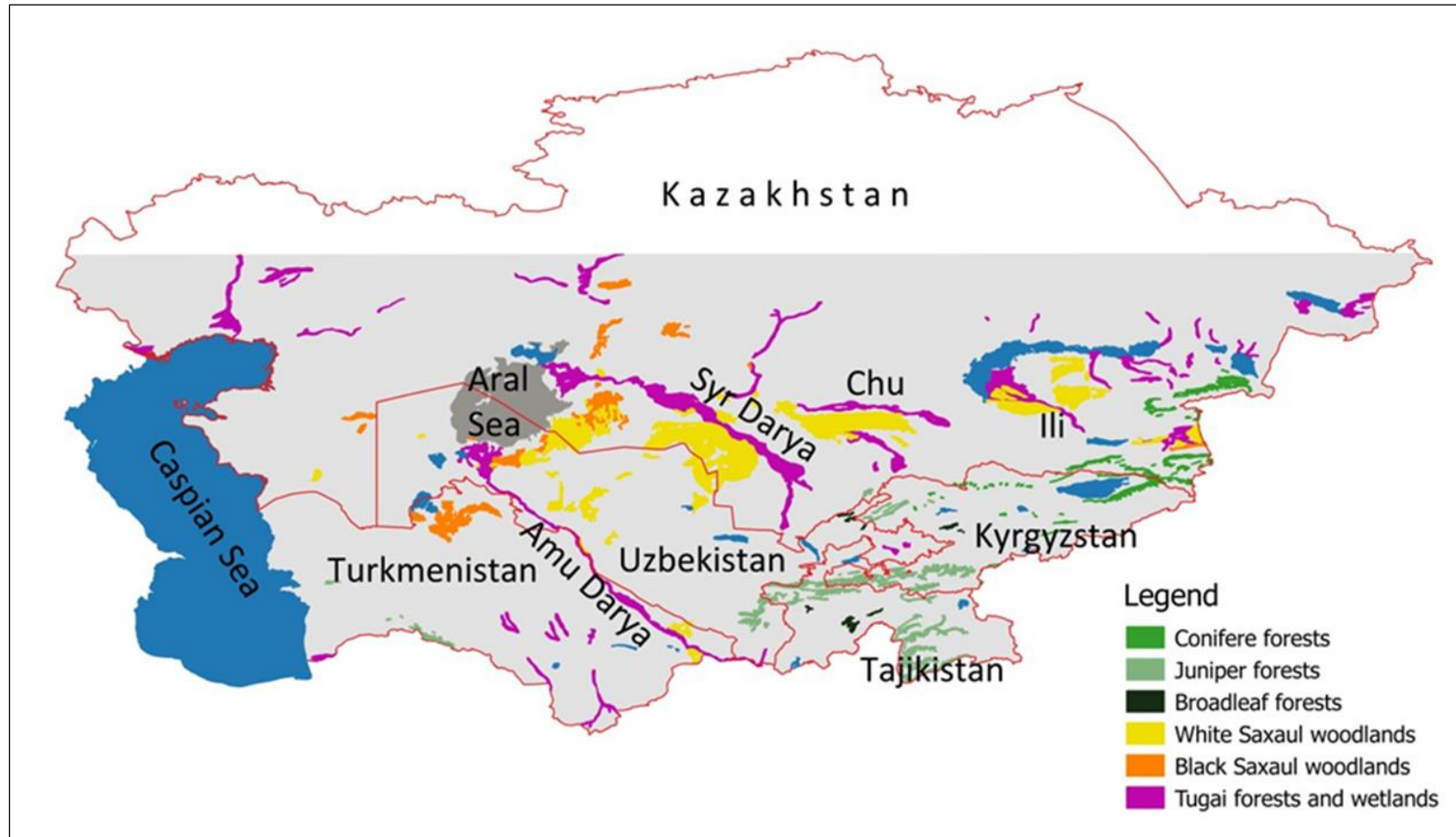


Tugai Forest,  
Yingbaza, Tarim Basin,



# Forest distribution in Central Asia

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Rachkovskaya et al., 2003

# Drivers of forest degradation

After independence – during the 1990s

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- Wood became most important source of energy for rural communities. Fuel wood removal became major degradation driver at the beginning of 1990s.
- Livestock was kept closer to settlements. -> Uncontrolled grazing in forests. Second major driver of degradation in the 1990s.
- Logging for timber became degradation driver, too.

# Drivers of forest degradation

Today

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- Fuel wood removal was reduced substantially in Azerbaijan, Kazakhstan, and Turkmenistan, where gas supply was improved. It remains an issue in the other countries.
- Grazing and tree cutting for timber remain drivers for forest degradation.
- For the Tugai forests, reduced and altered river runoffs have been continuing to be drivers for degradation.

# Restoration needs

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- Tugai forests are considered the most degraded forest type in many countries. Tugai forests are among the most productive ecosystems in CCA -> need for restoration.
- Open cast mining removed forests. Restoration need to prevent erosion and provide ecosystem services to neighbouring communities.
- Forests on slopes need to be restored, in order to protect against erosion and land slides.
- Forests close to settlements are most degraded and most important for settlements -> needs for restoration, e.g. walnut forests in Kyrgyzstan.

# Restoration potentials

## Examples

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- Armenia: 100,000 ha forest have disappeared after 1990 -> immediate restoration, as this would not impact on major agricultural land.
- Kazakhstan: **Forest** area according to FAO is 3,309,000 ha. Area of **wooded land** according to Committee of Forestry and Hunting is 12.6 million ha. These wooded lands potentially can be upgraded to forests -> 9.3 million ha.
- Kyrgyzstan: revert to natural distribution -> restore 240,000 ha Spruce forest and 100,000 Juniper forest -> competition with pastures. Restoration of 600,000 ha Walnut wild fruit forest -> much more intensive competition for land.
- Tajikistan: Forests have been cleared for mining -> restoration here with less competition than in other areas.

# Areas for Restoration [ha]

As listed by projects and national plans in the coming few years

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Country	International projects		National forestry programs	
	Area to be restored	Area for improved forest management	Area to be restored	Area for improved forest management
Armenia	5000	190,000		
Azerbaijan	5000	22,100	593,000	
Georgia	10,000		9000 to be restored. 35,000 ha forest committed.	1 million ha in new protected areas.
Kazakhstan	11,000 ha forest 85,000 ha rangeland with Saxaul	1 million ha of new protected areas for Saxau and Tugai	200,000	
Kyrgyzstan	15,000	45,000		
Tajikistan	12,400	27,000	1000	
Turkmenistan				
Uzbekistan		137,750	208,000	



# Thank you!



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